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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/733,748	12/07/2000	Akbar Arab-Sadeghabadi	LIT3-BL99	4786

7590

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EXAMINER

WANG, GEORGE Y

ART UNIT

PAPER NUMBER

2882

DATE MAILED: 04/10/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/733,748

Applicant(s)

ARAB-SADEGHABADI ET AL.

Examiner

George Y. Wang

Art Unit

2882

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Specification

1. The abstract of the disclosure is objected to because it is too long. An abstract should be less than 150 words or 15 lines. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-2 and 4-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Adl (U.S. Patent No. 4,834,479).

Adl discloses a pressure vessel (fig. 1, ref. 20) that has a tubular casing (fig. 1, ref. 27) with an internal cavity (fig. 1, ref. 32) capable of withstanding extreme hydrostatic pressures (col. 1, lines 59-66) and temperature (col. 3, lines 28-38), an opening in both ends (fig. 1) permitting optical fiber cables (fig. 1, ref. 22, 37), made of core and cladding, to access the cavity, and a plug region (fig. 1, ref. 34), with through-holes (fig. 1, ref. 40) for fiber passage, near the opening. Because the cavity is

cylindrical (col. 2, lines 11-16), the cross section of the cavity and the plug that fits into the cavity has a circular cross section.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 3 and 6-20 rejected under 35 U.S.C. 103(a) as being unpatentable over Adl in view of Beyer et al. (U.S. Patent No. 6,212,989, from hereinafter "Beyer").

6. As to claims 9-11, 16-17, and 20, Adl discloses a plug that is snugly fastened to form a stop or barrier against the side of the cavity wall so as to contribute to fluid blockage and further having a through-hole that provides passage for optical fibers. However, Adl fails to specifically disclose a plug made of ceramic adhesive that uses an adhesive to seal the opening where the fiber is inserted into the plug.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use an adhesive for sealing the fiber to a ceramic plug since one would be motivated by ease of manufacture. Adl teaches that a seal without resorting to adhesives is as effective, if not more, than one with adhesive (col. 5, lines 13-19), since Adl recognizes that adhesives, such as epoxies, are subject to failure during use (col. 5, lines 13-19). One of ordinary skill in the art would agree that adhesives are not ideal for sealing effectiveness. Instead, an adhesive would serve to enhance the ease of manufacture. For example, just as Adl teaches a beveled through-hole for ease of manufacture (col. 2, lines 35-38), fixation of the fiber to the plug through-hole by using adhesive merely provides permanence after the fiber is aligned and fix in its proper place. Therefore, it would have been obvious to one of ordinary skill in the art to apply an adhesive to secure the fiber after proper alignment, thereby facilitating the manufacturing process for pressure vessels.

7. Regarding claims 3, 6, and 13-14, Adl discloses a tapered cylindrically cavity and a plug that fits in that cavity. However Adl does not specifically disclose a plug region that diminishes in diameter as its distance from the opening increases.

Art Unit: 2882

Beyer discloses a plug window that diminishes in diameter as its distance from the opening increases (fig. 2A, ref. 10).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a plug that diminishes in diameter as its distance from the opening increases as suggested by Beyer since one would be motivated by maximum sealing capability. Having a truncated conical shape ensures a geometric seal allowing a circumferentially engaging surface seal (col. 5, lines 3-15).

8. As to claims 7-8, 12, 15, and 18-19, Adl teaches a plug region with a through-hole for fiber passage near the opening of the pressure vessel. However, the reference fails to specifically teach a threaded, irregular surface region for frictional engagement of a steel plug to a steel cavity.

Beyer discloses a threaded, irregular surface region for frictional engagement of a steel plug to a steel cavity (col. 6, lines 26-46).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a threaded, irregular surface region for frictional engagement of a steel plug to a steel cavity as suggested by Beyer since one would be motivated by optimum sealing capability. The use of threads (fig. 2A, ref. 40) on high-strength steel facilitates the attachment and the sealing of the irregular-surfaced plug to the cavity (col. 6, lines 26-40). This engagement of pressure vessel components ensures secure fitting by maximizing frictional forces (col. 6, lines 41-46).

Art Unit: 2882


Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to George Y. Wang whose telephone number is 703-305-7242. The examiner can normally be reached on M-F, 8 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on 703-305-3492. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

gw
April 4, 2002


ROBERT H. KIM
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